

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Harold R. Garner
Serial No: Continuation of 09/326,526
Filing Date: Concurrently herewith
Group/Art Unit: 2872
Examiner: Phan, J.
Title: DIGITAL OPTICAL CHEMISTRY MICROMIRROR IMAGER

Commissioner for Patents
Washington, D.C. 20231

DECLARATION UNDER 37 C.F.R. § 1.131 OF PRIOR INVENTION IN THE UNITED STATES TO OVERCOME CITED REFERENCE

Purpose of Declaration

1. This declaration is to establish completion of the invention, which is the subject of the Continuation of Patent Application Serial No. 09/326,526, filed June 4, 1999, entitled "DIGITAL OPTICAL CHEMISTRY MICROMIRROR IMAGER," which claims priority to Provisional Patent Application Serial No. 60/087,948, filed June 4, 1998 in the United States at a date prior to February 1998, which is the date of the prior art cited by the Examiner in the Office Action mailed January 2, 2001.
2. The person making this declaration is the inventor.
3. The Board of Regents, The University of Texas System is the owner of the patent application by Assignment dated June 3, 1998, recorded on June 4, 1998 at reel 9217, frame 0897.

Facts and Documentary Evidence

4. To establish the date of completion of the invention of this application, the following copies of a presentation related to a grant application is attached hereto as Exhibit A and submitted as evidence. The photograph in Exhibit A was taken in August 1997 and demonstrates that the device as claimed had been built and was operating prior to the filing date of the reference cited as prior art in the parent application of this filing. Exhibit A, attached hereto, demonstrates that the device as claimed had been not only conceived but reduced to practice.

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before the filing date of the art cited in the parent application. Furthermore, this affidavit in conjunction with the affidavit under 37 C.F.R. § 1.131 filed in the parent application demonstrated that the device was used to form a mask pattern formed and printed using the present device, and was therefore reduced to practice in the United States prior to the filing date of the art used the for rejection.

5. From the lab notebook pages attached hereto as Exhibit A, it can be seen that the invention in this application was used to produce a mask pattern on a substrate on the date even therewith, which is on or before February 23, 1998, which is a date earlier than the effective date of the reference cited in the parent application.

Time of Presentation of the Declaration

6. This declaration is submitted prior to final rejection.

Declaration


7. As a person signing below:

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Signature

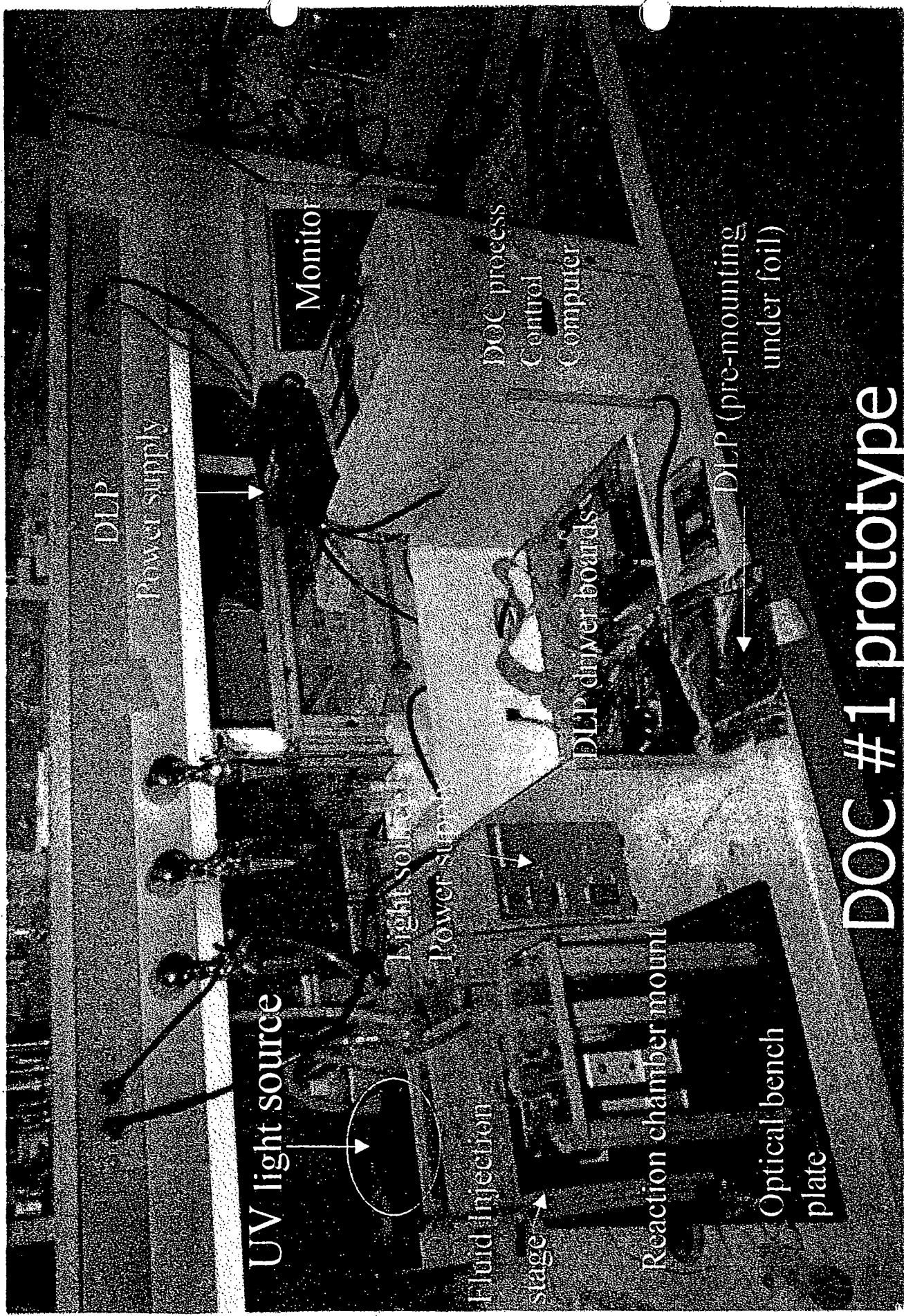
Date: 11/28/01

By: _____


Harold R. Garner, Ph.D.
as named inventor.

Residence address:
4100 Post Oak Road
Flower Mound, Texas 75028

Business address:
5323 Harry Hines Blvd, Mail Station 8591
Dallas, Texas 75390-9094



UV light source

Fluid injection stage

Reaction chamber mount

Optical bench plate

Light source

Power supply

DLP

Power supply

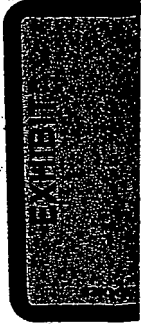
Monitor

DLP process control computer

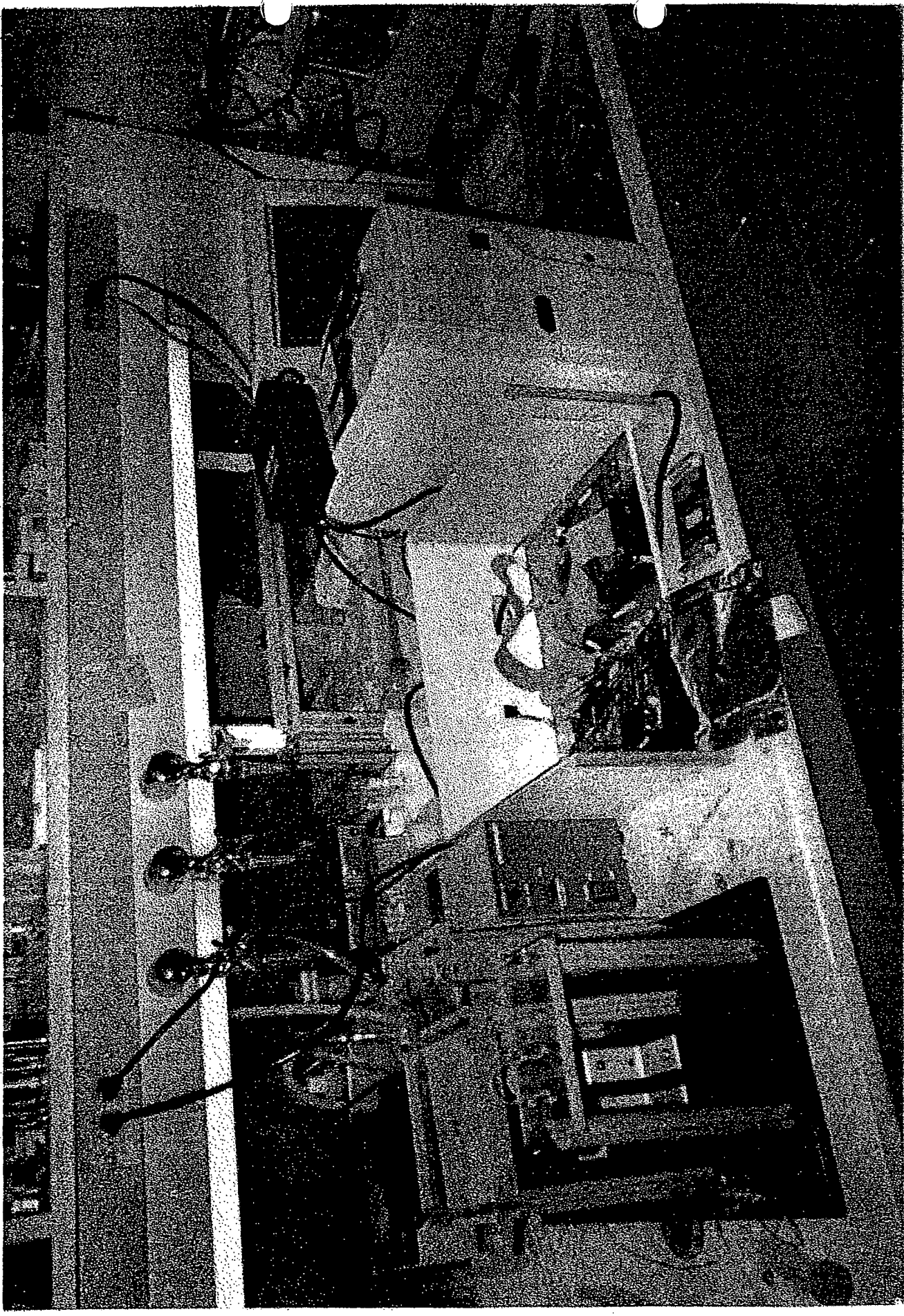
DLP driver boards

DLP (pre-mounting under foil)

DOC #1 prototype



EXHIBIT



1) Slide was modified with $(\text{Et}_3\text{O})\text{Si}(\text{CH}_2)_3\text{N}(\text{CH}_2\text{CH}_2\text{OH})_2$ as described on p. 114.

2) washed slide with Spacer 18 (Glen Research) + Activator followed by capping and oxidation.

3) Dried slide in desiccator for weekend.

Reaction on the Robert's machine:

(1) Deblock ; wait (1 min), wash with CH_3CN

(2) Activator + UV-PG-C-phosphoramidite; wait, wash

(3) Cap 1 + Cap 2; wait, wash

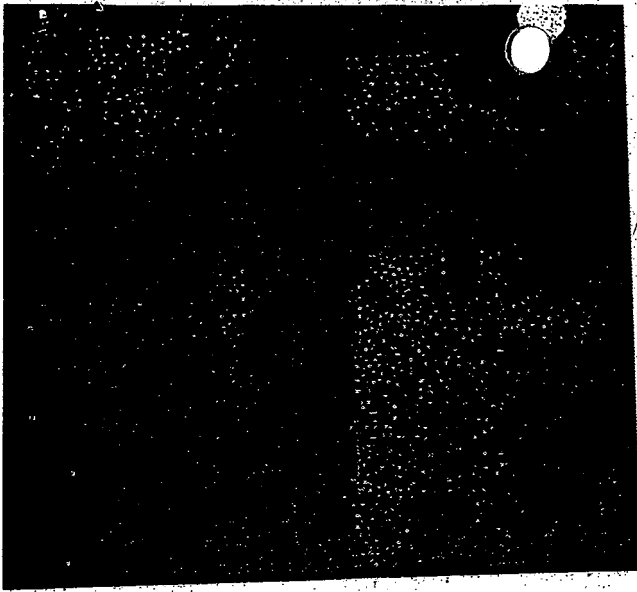
(4) Oxidize; wait, wash

(5) UV-light; 5 min, without any filter

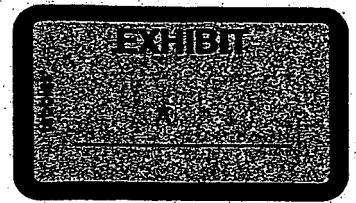
(6) Used mask wash

(7) Activator + CY-phosphoramidite; wait, wash

To Page No. _____



mask



11/11/97 15:35

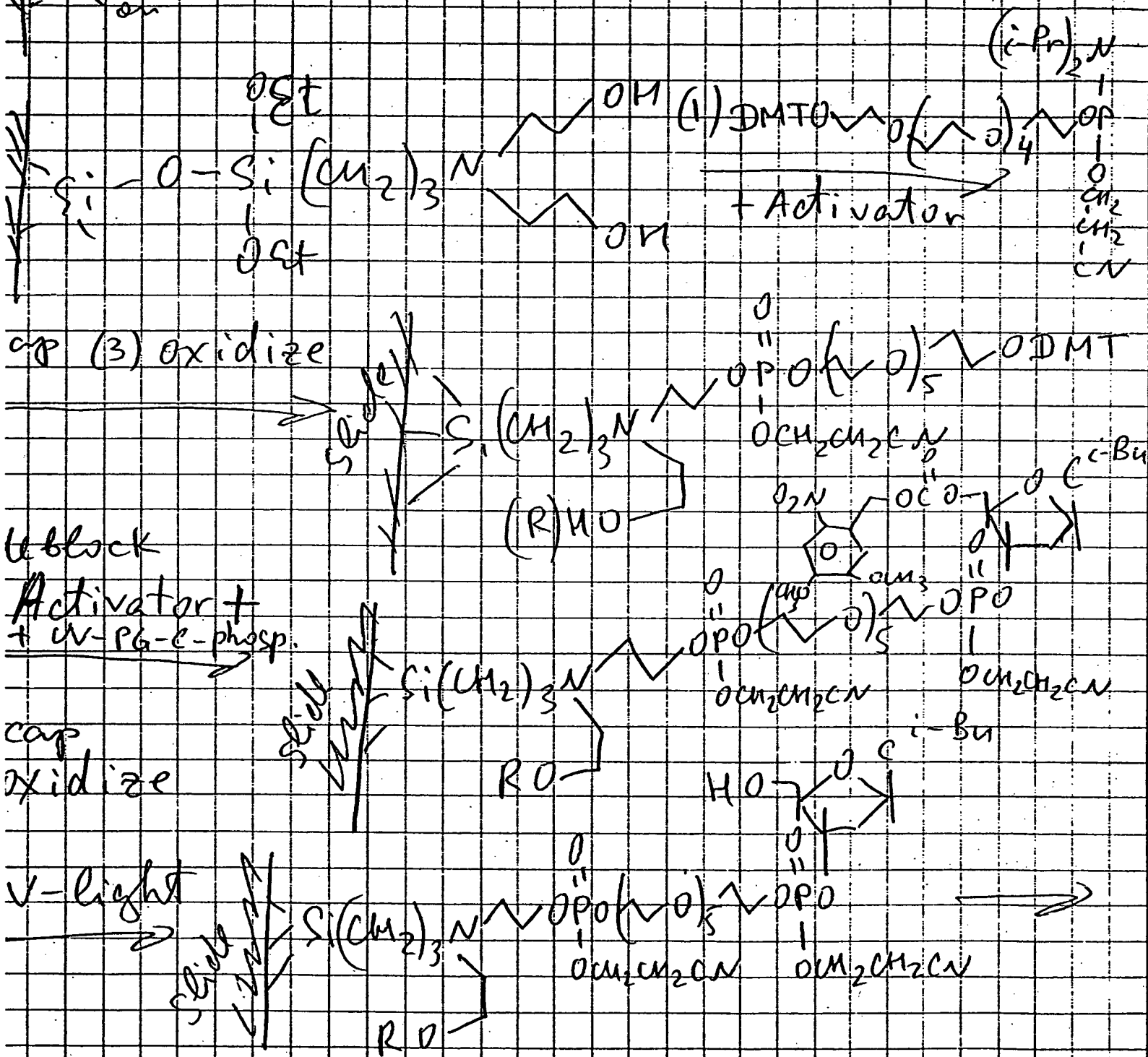
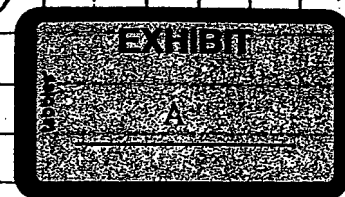
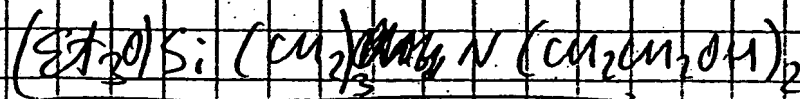
Focus

Page 1

11/11/97



Chemistry of successful run:



To Page No. _____

& Understood by me,

Date

11-11-97

Invented by

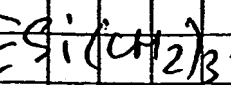
Date

ga No.

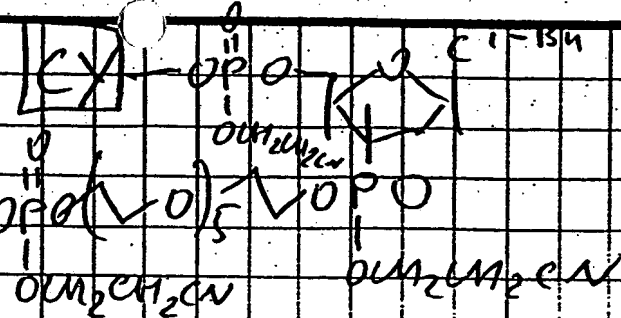
Act. 1 CY-phosp.

1) oxidize

side
chain



R O



1) make slides

modif
CY-3

non-modif.
CY-3

EXHIBIT

To Page No.

ed & Understood by me,

Date

Invented by

Date

EXHIBIT

MMI

USED $S_i(CH_2)_3N(CH_2CH_2OH)_2$ PATTERN SLIDE PREPARED BY HS
 VIEW AS SHOWN ON PG 114.

~~SLIDE ON ACTIVATION DOUBT. ADD 1:1 DEBLOCKER:ACTIVATOR.~~

~~DIPPED (1:1, CAP A-CAP B) WASH = ACETONITRILE~~
~~Oxidized (I₂)~~

DO SPACER & ACTIVATOR (1:1 RATIO) (SEE PAGE 122 FOR SPACER STRUCTURE)

PREP (1:1 CAP 1:CAP 2), WAIT, WASH

OXIDIZED, WAIT, WASH

DEBLOCKED, WAIT, WASH

DO UV-PG-C-P₆ & ACTIVATOR (1:1) RATIO WAIT, WASH

WPE, WAIT, WASH

OXIDIZED, WAIT, WASH

UV LIGHT (15 MIN) NO FILTER, USED MASK GRID

OUT OF Rm Chamber

REST IS UNDER FLOOD

LOADS ACTIVATION: $GV-P_6$ IN 1:1 RATIO, WASH

OXIDIZED, WAIT, WASH

WASH w/ACETONE

FOR THERMAL MICROSCOPE

To Page No. _____

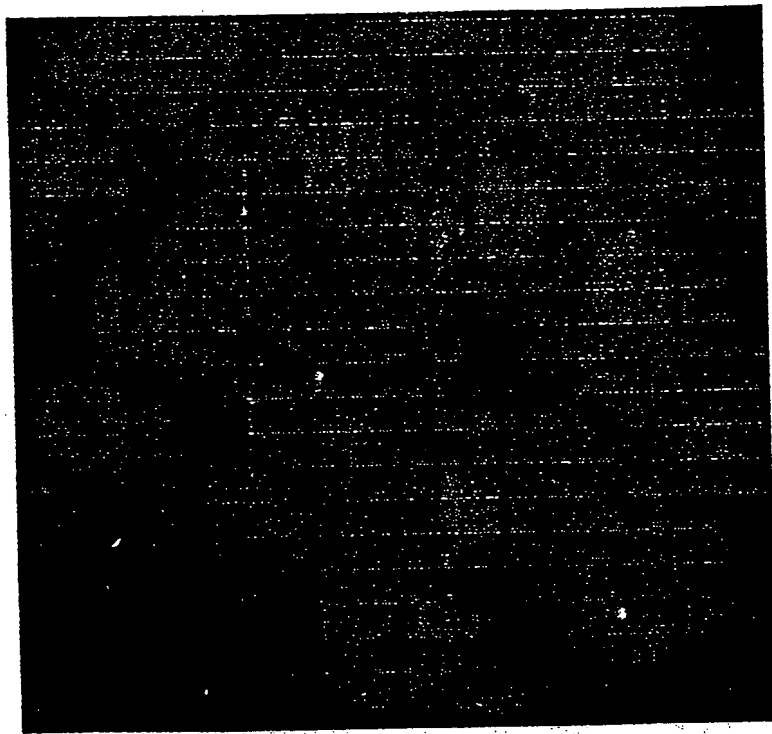
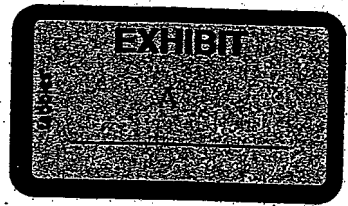
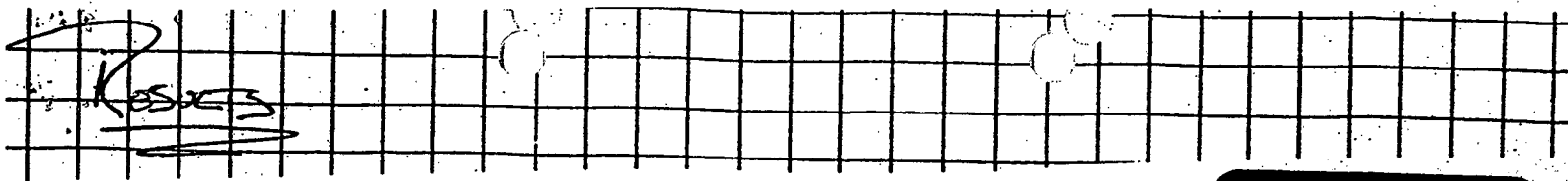
Understood by me,

Date

11-17-77

Invented by

Date



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Harold R. Garner

For: DIGITAL OPTICAL CHEMISTRY MICROMIRROR IMAGER

DECLARATION

Commissioner For Patents
P O Box 1450
Alexandria, VA 22313-1450

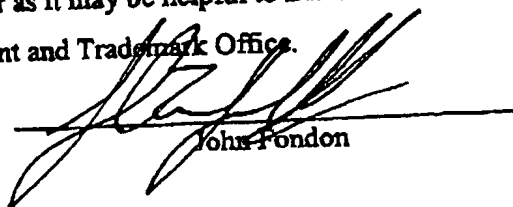
Dear Sir:

I, John Fondon, being warned that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. §101, and that such false statements may jeopardize the validity of the application or any patent issuing therefrom, declares the following:

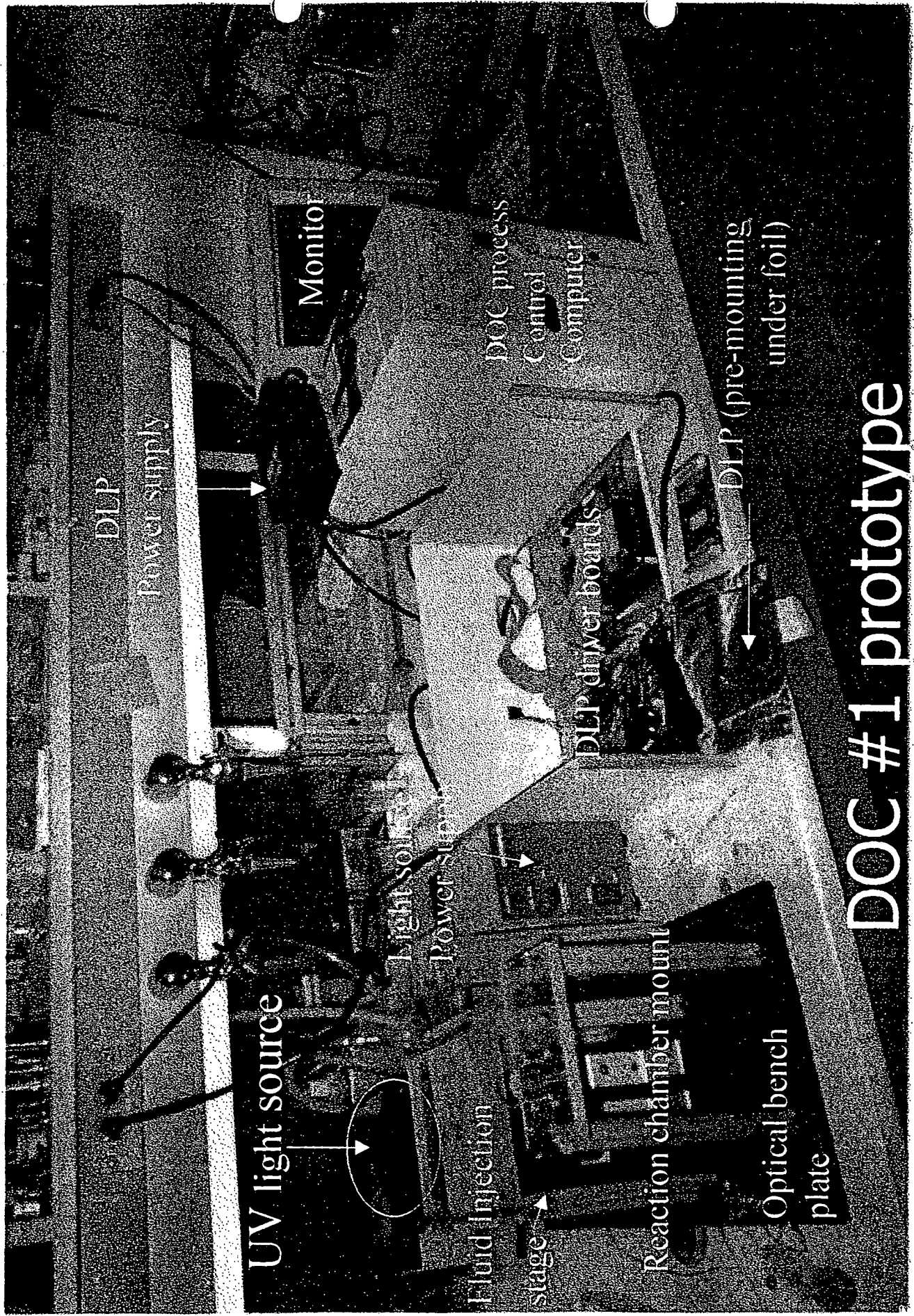
1. I am not an inventor of the above-identified patent application.
2. The statements contained herein are of my own knowledge and these statements are true and believe to be true.
3. My understanding is that Harold R. Garner has submitted a Declaration to the Patent and Trademark Office establishing that he and his staff built and operated a device known as a digital optical chemistry micromirror imager and further that he built a prototype of that device in November of 1997.
4. Attached hereto is an exhibit showing a photograph of the prototype device from November of 1997. I saw that device at that time in Dr. Garner's laboratory.

This Declaration is submitted insofar as it may be helpful to Dr. Garner in connection with activities before the United States Patent and Trademark Office.

Dated: October 20, 2005


John Fondon

QBMAD405438.1



UV light source

Light source

Power supply

Fluid Injection stage

Reaction chamber mount

Optical bench plate

DLP driver boards

DLP (pre-mounting under foil)

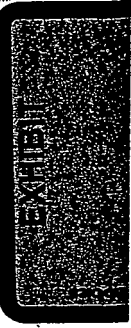
DLP process control computer

Monitor

DLP Power supply

DOC #1 prototype

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DIGITAL OPTICAL CHEMISTRY MICROMIRROR IMAGER

Applicant: Harold R. Garner

Serial No.: 09/998,341

Filed: 11/29/2001

Group Art Unit: 1634

Examiner: B. Forman

Attorney File No.: 700706.00017

U.S. Serial No.: 09/998,341	Written Description of Claim Elements in Specification (U.S. Pub. App. No. 20020041420)
<p>39. An apparatus for catalyzing a reaction on a substrate comprising:</p> <p>a ultraviolet light source;</p> <p>a computer-controlled micromirror positioned to redirect light from the light source toward the substrate; and</p> <p>a reaction chamber, wherein light redirected by the micromirror catalyzes a chemical reaction proximate the substrate in the reaction.</p>	<p>An apparatus for catalyzing a reaction on a substrate: (Page 1, [0010])</p> <p>A light source is a lamp or laser, such as a UV light(page 1, [0010]; page 2, [0012] and [0025]; page 3, [0028]; page 4, [0041] and [0053]).</p> <p>The computer is connected to and controls, the micromirror. A light source that is directed toward a micromirror positioned to redirect light from the light source toward a substrate. (Page 1, [0010])</p> <p>A substrate holder, such as a reaction chamber, that is placed in the path of light redirected by the micromirror, wherein light that is redirected by the micromirror catalyzes a chemical reaction proximate the substrate. (Page 1, [0010])</p>

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